

**Aero Design Ltd.****Work Order Control Sheet**

Work Order#: 2016-115 Date Opened: 29 August 2016 Title: Fabrication

Aircraft OEM: Bell Aircraft Model: 206B/206L/407 Product Type: Cyclic Friction Product Model: Parts\* Quantity: 102/71**Work Order Contents**

Work Order/Build Sheets (Procedures Provided)  
Additional Work Sheets (Standard Practice)  
Drawings (See List Below)  
Parts Distribution Sheet  
Sub Component Tags  
Completed Certification  
Time Sheet (R&D)  
Notes

Initial or N/A

JC
N/A
JR
JR
N/A
JC
N/A
N/A

**Build Sheet Contents**

Tasks Initialled  
Dual Inspections Initialled

Initial or N/A

JC
N/A

**Drawing List**

Drawing #	Rev #	Description	Initial or N/A
95220	1	Tube	JR
95222	1	Retainer Bushing	JR
95214	0	Tube Assembly	JC

**Traveller**

Initial or N/A


**Component Completion**

Quantity Complete on This Work Order  
Quantity Incomplete on This Work Order  
Further Processing Required Before Release  
Release to Stock as Components

As Instructed

102/71/46*
N/A
N/A
N/A

**Certification**

Form One Completed  
Serviceable (Green) Tag Completed  
In Process (Yellow) Tag Completed  
Unserviceable (Red) Tag Completed  
Parts Placed in Stores for Distribution

Initial or N/A

N/A
JC
N/A
N/A
N/A

**Additional Documentation**

Documentation of a minor change  
Non-Conformance Report Required  
Service Difficulty Report Required

Initial or N/A

N/A
N/A
N/A

**Billing**

Local (Aero Design)  
Research and Development  
Third Party

Initial or N/A

JC
N/A
N/A

**Note:**

102 of 95222-01 Retainer Bushing  
71 of 95220-01 Tube  
46 of 95214-01 Tube Assembly  
- 22 from this batch of Tube  
- 24 from WO2015-127 Tube

Work performed by:

Print: D. MartynSign: [Signature]SCA: AD05Date: 23-Nov-16

ICC / Dual Inspection performed by:

Print: J. RekveSign: [Signature]SCA: AD01Date: 23-Nov-16

Work Order closed by:

Print: J. ClarkeSign: [Signature]SCA: AD02Date: 23-Nov-16

Approved Manufacturing Facility 73-04

Form 20.D/03

Rev. Original 23 Sep 2014



## Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Tube No. of pieces: 26

Manufacturer: Aero Design Ltd.

Part No.: 95222-01 Serial No.: NSN

TTSN: NA TSO: N/A Rem.: N/A

Work Order No.: ~~95222-01~~ 2015-127 dk

Remaining Tasks to be Performed: \_\_\_\_\_

Signature: [Signature]

Date: 09 Dec 15 Lic. No. / SCA AD01

Serviceable



**Aero Design Ltd.**

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: [info@aerodesign.ca](mailto:info@aerodesign.ca)

AMF 73-04

**Serviceable**

**Remarks**

Material PO# 15011



## Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature:

Tube

No. of pieces:

71

Manufacturer:

Aero Design Ltd.

Part No.:

95220-01

Serial/Batch No.:

16002

TTSN:

N/A

TSO:

N/A

Rem.:

N/A

Work Order No.:

2016-115

Remaining Tasks to be Performed:

Signature:

David Hunt

Date:

Sep 7, 07/2016

Lic. No. / SCA

NO  
73-04  
06

In Process



## **Aero Design Ltd.**

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: [info@aerodesign.ca](mailto:info@aerodesign.ca)

**AMF 73-04**

**In Process**

**Remarks**

---

---

---

---

---

---

---

---



## Tube Assembly - 95214

### General

These instructions apply to Tube Assembly 95214-01. Refer to the following drawings, at the current revision, for dimensions and details:

95214, Revision 0 – Tube Assembly

Work Order: 2016-115

Qty: 46

Complete  
(initial or SCA #)

Date Open: 29 AUG 2016

AD  
73-04  
01

#### 1. Assembly

- a. Press 95222-01 Retainer Bushing into 95220-01 Tube using bar press. Ensure alignment of Bushing with Tube.

**Caution:** Do not over-press once Bushing is seated, Tube will deflect or deform.

- b. Record stock PO/WO:

95220-01 Tube: (24) 2015-127 / (22) 2016-115

95222-01 Retainer Bushing: 2016-115

- c. Tag in-process parts and place in welding area.

#### 2. Welding

- a. Fuse weld around 95222-01 Retainer Bushing into 95220-01 Tube.
- b. Outside surface must be smooth and round to seat in further steps. Buff any high spots from welding smooth.
- c. Tag complete 95214-01 Tube Assemblies and place into stock.

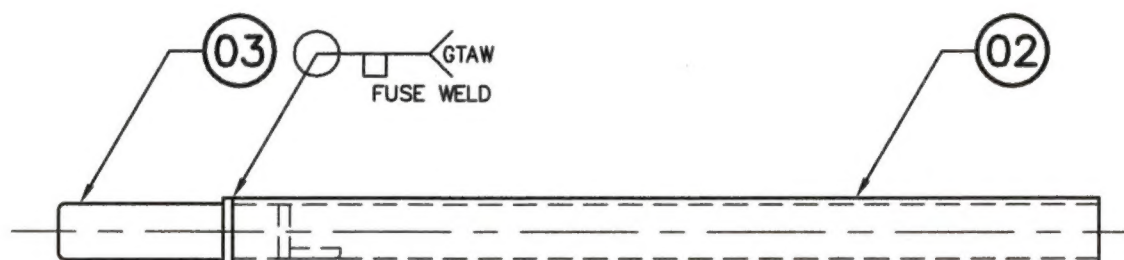
AD  
73-04  
05

THIS DRAWING CONTAINS INFORMATION AND DATA WHICH IS PROPRIETARY TO AERO DESIGN LTD. THIS DRAWING, OR ANY PORTION THEREOF, MAY NOT BE REPRODUCED, COPIED, OR DUPLICATED IN ANY MANNER, NOR USED FOR MANUFACTURING WITHOUT THE WRITTEN CONSENT OF AERO DESIGN LTD. BY ACCEPTING THIS DRAWING FOR REFERENCE, THE RECIPIENT AGREES TO HOLD AERO DESIGN LTD. HARMLESS FROM THE USE, OR MISUSE, OF THIS DRAWING OR THE INFORMATION CONTAINED THEREON.

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		

#### NOTES

1. PRESS RETAINER BUSHING (03) INTO TUBE (02). WELD IN PLACE PER NOTE 2.
2. WELDING OF 304 STAINLESS STEEL TO BE COMPLETED BY GTAW METHOD TO AMS2685C.  
WELDING ROD SHALL CONFORM TO ER308L OR EQUIVALENT.



### ① TUBE ASSEMBLY

1	95222-01	03	RETAINER BUSHING
1	95220-01	02	TUBE
	95214-01	01	TUBE ASSEMBLY
QTY	PART NO.	ITEM	DESCRIPTION
LIST OF MATERIALS			

APPROVALS	DATE
DRAWN: JEFF CLARKE	07 SEPT 2016
CHECKED: JASON REKVE	07 SEPT 2016

UNLESS OTHERWISE SPECIFIED  
DIMENSIONS ARE IN INCHES.  
TOLERANCES ON:  
DECIMALS ANGLES  
X.XXX ±0.010 ±1/2°  
X.XX ±0.03  
X.X ±0.1



**AERO DESIGN LTD.**

9888A MALASPINA ROAD  
POWELL RIVER, BC, CANADA, V8A 0G3  
TEL: 604.483.2376 www.aerodesign.ca

BELL 206B, 206L SERIES, 407  
CYCLIC FRICTION REPLACEMENT  
FRICTION ASSEMBLY

SCALE	DWG. SIZE	DWG. NO.	REV.
SCALE 1 : 1	A4	95214	0
SHEET 1 OF 1			

2016-115

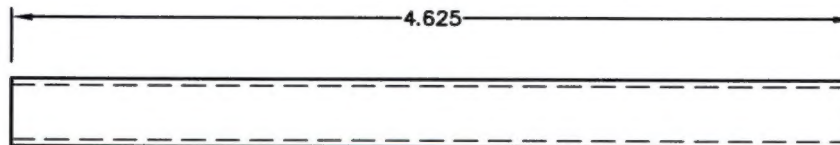
THIS DRAWING CONTAINS INFORMATION AND DATA WHICH IS PROPRIETARY TO AERO DESIGN LTD. THIS DRAWING, OR ANY PORTION THEREOF, MAY NOT BE REPRODUCED, COPIED, OR DUPLICATED IN ANY MANNER, NOR USED FOR MANUFACTURING WITHOUT THE WRITTEN CONSENT OF AERO DESIGN LTD. BY ACCEPTING THIS DRAWING FOR REFERENCE, THE RECIPIENT AGREES TO HOLD AERO DESIGN LTD. HARMLESS FROM THE USE, OR MISUSE, OF THIS DRAWING OR THE INFORMATION CONTAINED THEREON.

REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	TITLE BLOCK UPDATED	BJC	14/10/2013


## NOTES

1. REMOVE ALL BURRS AND BREAK SHARP EDGES.

Ø0.375  
STOCK



① TUBE

		95220-01	01	TUBE	304 STAINLESS STEEL	ASTM A269	Ø0.375 X 0.035 TUBE					
01	PART NO.	ITEM	DESCRIPTION		MATERIAL	MATERIAL SPEC	STOCK SIZE					
QTY	LIST OF MATERIALS											
					APPROVALS		DATE			<b>AERO DESIGN LTD.</b> 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.483.2376 <a href="http://www.aerodesign.ca">www.aerodesign.ca</a>		
					DRAWN: JEFF CLARKE		18 OCT 2012					
					CHECKED: E. BURGAIN		18 OCT 2012					
					UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS ANGLES X.XXX ±0.010 ±1/2" X.XX ±0.03 X.X ±0.1				BELL 206A, 206B, 206L SERIES, 407 CYCLIC FRICTION REPLACEMENT PARTS - TUBE			
					SCALE 1 : 1		DWG. SIZE		DWG. NO.		REV.	
SHEET 1 OF 1		A4		95220		1						



2016-115

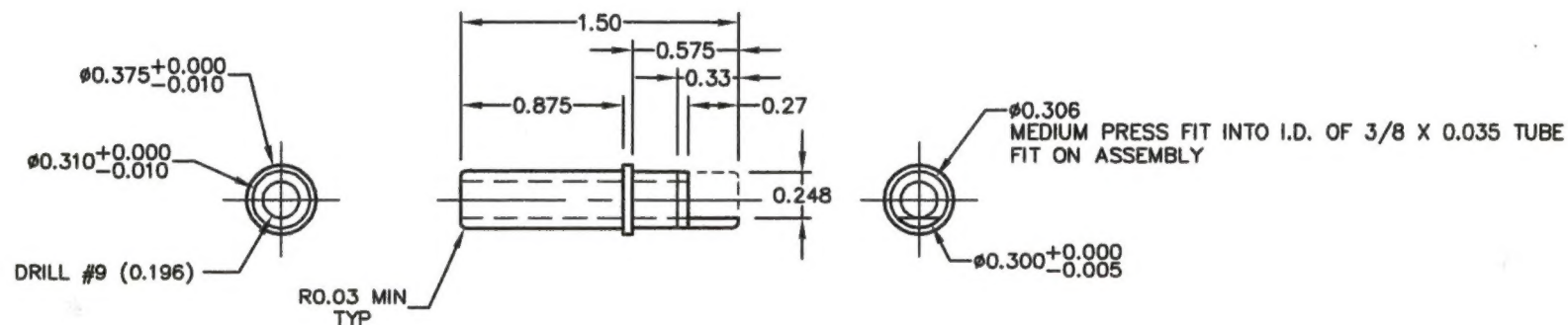
X100

THIS DRAWING CONTAINS INFORMATION AND DATA WHICH IS PROPRIETARY TO AERO DESIGN LTD. THIS DRAWING, OR ANY PORTION THEREOF, MAY NOT BE REPRODUCED, COPIED, OR DUPLICATED IN ANY MANNER, NOR USED FOR MANUFACTURING WITHOUT THE WRITTEN CONSENT OF AERO DESIGN LTD. BY ACCEPTING THIS DRAWING FOR REFERENCE, THE RECIPIENT AGREES TO HOLD AERO DESIGN LTD. HARMLESS FROM THE USE, OR MISUSE, OF THIS DRAWING OR THE INFORMATION CONTAINED THEREON.


REV.	DESCRIPTION OF CHANGE	INITIALS	DATE
0	INITIAL ISSUE		
1	TITLE BLOCK UPDATED	BJC	14/10/2013

## NOTES

1. REMOVE ALL BURRS AND BREAK SHARP EDGES.



# 01 RETAINER BUSHING

		95222-01		01	RETAINER BUSHING	304 STAINLESS STEEL	ASTM A479	0.375 ROD		
01	PART NO.		ITEM	DESCRIPTION		MATERIAL	MATERIAL SPEC	STOCK SIZE		
QTY	LIST OF MATERIALS									
						APPROVALS		DATE	 <b>AERO DESIGN LTD.</b> 9888A MALASPINA ROAD POWELL RIVER, BC, CANADA, V8A 0G3 TEL: 604.468.9376      www.aerodesign.ca	
						DRAWN: JEFF CLARKE		18 OCT 2012		
						CHECKED: E. BURGOIN		18 OCT 2012		
						UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON: DECIMALS                      ANGLES X.XXX ±0.010                      ±1/2" X.XX ±0.03 X.X ±0.1				BELL 206B, 206L SERIES, 407 CYCLIC FRICTION REPLACEMENT PARTS - RETAINER BUSHING
						SCALE 1 : 1		DWG. SIZE	DWG. NO.	REV.
						SHEET 1 OF 1		A4	95222	1

WO# 2016-115

[illegible]

- cut  $1\frac{9}{16}$ "

use coolant for all steps

- deburr one end

~~face to one end to length~~

- set collet stop

- face one end (.925" stick out from collet)

- turn <sup>id.</sup> to length up to collar

- deburr to  $45^\circ$  with custom groove tool or file.

- center drill end 425 RPM

- drill bore 1" deep #9 drill 1380 RPM

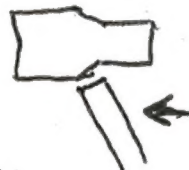
- deburr bore end

→ turn part around

- face end 1380 RPM

- Turn O.D. to collar 1380 RPM

- Turn small end with taper using angled cutter to length and dia.



1380 RPM

- deburr to  $45^\circ$  corners of end and collar with modified groove tool or file. 1380 RPM

- center drill end 425 RPM

- drill bore till it meets other bore. 425 RPM #9 drill

- deburr bore end

To mill cut-out.

-  $\frac{1}{2}$ " 4 flute coated carbide end mill

- one climb pass @ 1200 RPM hand feed "Y" axis.

- clamp with supplied split tool and use stop in vise

Cyclic Friction

Retainer

Bushing

95222-01

Final steps

- deburr on fibre wheel

- inspect

- Tag





Aero Design Ltd.

9888 A Malaspina Rd. Powell River, BC, V8A 0G3

Phone: 604-483-2376 Fax: 604-483-2372 E-mail: info@aerodesign.ca

AMF 73-04

Nomenclature: Retainer Bushing No. of pieces: 102

Manufacturer: Aero Design

Part No.: 95222-01 Serial/Batch No.: 16002

TTSN: N/A TSO: N/A Rem.: N/A

Work Order No.: 2016-115

Remaining Tasks to be Performed: Weld in place Inspect,  
weld in place.

Signature: [Signature]

Date: Sept 1/2016 Lic. No. / SCA NO 73-04 05

Form# 20.E.03

Rev. 1 24 April 2014

In Process

COPY